CLAIM AMENDMENTS

1. (Previously presented) A recombinant poxvirus comprising at least two foreign genes which are homologous in comparison to each other, wherein each of said genes is inserted into a different insertion site of the viral genome.

2. (Previously presented) The recombinant poxvirus according to claim 1, wherein the genes have a homology of at least 50% in comparison to each other.

3. (Previously presented) A recombinant poxvirus comprising at least two homologous foreign genes, said genes having a homology of at least 60% in comparison to each other.

4. (Previously presented) The recombinant poxvirus according to claim 2, wherein the genes have a homology of 65-75% in comparison to each other.

5. (Previously presented) The recombinant poxvirus according to claim 1, wherein the genes are derived from a flavivirus.

6. (Original) The recombinant poxvirus according to claim 5, wherein the flavivirus is a Dengue virus.

7. (Previously presented) The recombinant poxvirus according to claim 5, wherein the genes are at least two homologous genes derived from at least two different serotypes of the virus.

8. (Previously presented) The recombinant poxvirus according to claim 5, wherein the genes are at least two PrM genes.

9. (Previously presented) The recombinant poxvirus according to claim 5, wherein the genes are 4 PrM genes.

10. (Previously presented) The recombinant poxvirus according to claim 1, wherein the poxvirus is a Vaccinia virus.

11. (Original) The recombinant poxvirus according to claim 10, wherein the Vaccinia virus is a Modified Vaccinia Ankara (MVA) virus.

12. (Original) The recombinant poxvirus according claim 11, wherein the MVA is MVA-BN deposited at the European Collection of Animal Cell Cultures (ECACC) under number V00083008.

13. (Previously presented) The recombinant poxvirus according to claim 1, wherein the poxvirus is replication deficient or replication incompetent in mammalian cells, including human cells.

14. (Previously presented) The recombinant poxvirus according to claim 1, wherein the genes are inserted into a naturally occurring deletion site and/or into an intergenic region of the poxviral genome.

15. (Previously presented) The recombinant poxvirus according to claim 1 as medicament or vaccine.

16. (Previously presented) A vaccine comprising the recombinant poxvirus according to claim 1.

17. (Previously presented) A pharmaceutical composition comprising the recombinant poxvirus according to claim 1 and a pharmaceutically acceptable carrier, diluent, adjuvant and/or additive.

18. (Previously presented) The recombinant poxvirus according to claim 1, effecting an immune response of a living animal, including a human.

19. (Canceled)

20. (Previously presented) A method for effecting an immune response in a living animal, including a human, comprising administering a therapeutically effective amount of the recombinant

poxvirus according to claim 1, to the animal or human to be treated.

21. (Previously presented) An isolated cell comprising the recombinant poxvirus according to claim 1.

22. (Previously presented) A method for producing a recombinant poxvirus according to claim 1 comprising the steps of

- infecting a cell with a poxvirus;
- transfecting the infected cell with a first vector construct comprising a gene being heterologous to the poxviral genome, and a genomic poxvirus sequence capable of directing the integration of the heterologous gene into an insertion site of the poxviral genome;
- identifying, isolating and, optionally, purifying the generated recombinant poxvirus;
- repeating the above steps by using the recombinant poxvirus obtained from previous steps for infecting the cell and an additional vector construct comprising a further gene being heterologous to the poxviral genome and homologous to the gene of the first vector construct.

23. (Previously presented) A kit comprising

- two or more vector constructs, each construct comprising a gene under transcriptional control of a poxviral expression control element, wherein the genes included in the different vectors are homologous genes in comparison to each other, and wherein each gene is flanked by a poxviral DNA sequence capable of directing the integration of the gene into a poxviral genome, and

- means for identifying and/or selecting recombinant poxviruses, which have incorporated said homologous genes into their genome.

24. (Original) The kit according to claim 23, wherein each homologous gene is flanked by a poxviral DNA sequence capable of directing the integration of said homologous gene of each vector construct into a different insertion site of the poxviral genome.

25. (Previously presented) A DNA sequence derived from or homologous to the recombinant poxviral genome of the recombinant poxvirus according to claim 1, wherein said DNA sequence comprises at least two homologous genes and at least part of the sequences of the poxviral genome.

26. (Canceled)

27. (Canceled)

28. (New) A method for detecting cells, cell lysates or fractions thereof infected with a recombinant poxvirus comprising at least two foreign genes, which are homologous in comparison to each other, wherein each of the homologous genes is inserted into a different insertion site of the viral genome, which comprises the steps of:

(a) contacting the cells or the lysates or factions thereof with a probe containing a DNA sequence, wherein the DNA sequence comprises the at least two foreign genes, which are homologous in comparison to each other, and at least a part of the sequence of the recombinant poxviral genome to permit hybridization between the homologous genes in the probe and the homologous genes from any of the recombinant poxvirus contained in the cells;

(b) determining whether hybridization has occurred between the DNA sequence in the probe and the DNA in any recombinant poxvirus in the cells, cell lysates or fractions thereof; and

(c) relating the information obtained according to step (b) to determine the presence of the recombinant poxvirus in the cells, cell lysates or fractions thereof.

29. (New) A method for identifying a recombinant poxvirus in a sample comprising at least two foreign genes, which are homologous in comparison to each other, wherein each of the homologous genes is inserted into a different insertion site of the viral genome, which comprises the steps of:

(a) contacting the sample with a probe containing a DNA sequence, wherein the DNA sequence comprises the at least two foreign genes, which are homologous in comparison to each other, and at least a part of the sequence of the recombinant poxviral genome to permit hybridization between the homologous genes in the probe and the homologous genes from any of the recombinant poxvirus in the sample;

(b) determining whether hybridization has occurred between the DNA sequence in the probe and the DNA in any recombinant poxvirus in the sample ; and

(c) relating the information obtained according to step (b) to determine the presence of the recombinant poxvirus in the sample.

30. (New) A method for detecting cells, cell lysates or fractions thereof infected with a recombinant poxvirus comprising at least two foreign genes, which are homologous in comparison to each other, wherein each of the homologous genes is inserted into a different insertion site of the viral genome, which comprises the steps of:

(a) contacting the cells, cell lysates, or fractions thereof with DNA primers selectively amplifying the foreign genes;

(b) determining whether hybridization has occurred between the DNA primer and the DNA in the recombinant poxvirus in the cells, cell lysates or fractions thereof and

(c) relating the information obtained according to step (b) to determine the presence of the recombinant poxvirus in the cells, cell lysates or fractions thereof.

31. (New) The method according to claim 30, wherein the cells, cell lysates or fractions thereof are, in addition or as an alternative to step (a), contacted with DNA primers selectively binding to the flanking sequences related to the insertion sites of the foreign genes.

32. (New) A method for identifying a recombinant poxvirus in a sample comprising at least two foreign genes, which are homologous in comparison to each other, wherein each of the homologous genes is inserted into a different insertion site of the viral genome, which comprises the steps of:

(a) contacting the sample with DNA primers exclusively amplifying the foreign genes;

(b) determining whether hybridization has occurred between the DNA primer and the DNA in the recombinant poxvirus in the sample; and

(c) relating the information obtained according to step (b) to determine the presence of the recombinant pox virus in the sample.

33. (New) The method according to claim 32, wherein the sample is, in addition or as an alternative to step (a), contacted with DNA primers selectively binding to the flanking sequences related to the insertion sites of the foreign genes.